

**ALARM CLOCK SYSTEM, METHOD OF OPERATION AND
PROGRAM PRODUCT THEREFOR**

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ABSTRACT

5 A programmable alarm clock system, method of operation and program product
therefor with sleep analysis to identify and wake a person during non-REM sleep patterns,
resulting in less subsequent drowsiness and better day-to-day functioning. The
programmable alarm clock system includes at least one brain activity sensor attachable to
a head of a sleeper. Brain activity signals from the sensor(s) are sent to a receiver at a
local computer. The user, before retiring inputs a wake up time and attaches the
10 sensor(s). The local computer sends brain activity signals to a remotely connected sleep
analyzing server which analyzes the brain activity and identifies REM sleep periods and
non-REM sleep periods. The labeled brain activity periods are returned to the local
computer which waits for the wake up time. Then, the local computer sets an alarm time
by adjusting the wake up time to coincide with a non-REM sleep period, if necessary and
15 if possible. At the alarm time, the local computer sends a trigger to a remotely triggered
local alarm device such as a clock, which sounds an alarm to wake the user/sleeper.